The Health Maintenance Clinic Program *of the* Fife-Hamill Memorial Health Center

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A HEALTH maintenance clinic was established in 1948 at the Fife-Hamill Memorial Health Center by the department of preventive medicine of the Jefferson Medical College of Philadelphia.

Persons presumed to be healthy were to be registered at the clinic for periodic physical examination and instruction in health habits and proper hygiene as well as advice on environmental, economic, and personal problems relating to the early detection of health hazards or prodromes of disease.

The existence of the clinic was publicized by local South Philadelphia newspapers, parent-teacher associations, handbills taken home by school children, and by public health nurses.

A comprehensive history and environmental details were obtained for each individual on his first visit to the clinic. This was followed routinely (*1*) by a complete physical examination, including pelvic examination in women, a complete blood count, urinalysis, serology for syphilis, stool examination for parasites, and X-ray of the chest. Special laboratory tests were made when indicated. As far as practicable, home visits were made by public health nurses accompanied by senior medical students of the medical college. These contacts permitted a personal appraisal of pertinent environmental factors which influenced the final disposition of cases.

After the initial examination, recommendations concerning the patient were given. If no disorders were discovered, the person was offered advice calculated to help maintain health, and he was urged to return for reexamination, usually within a year. When some disorder was discovered, pertinent suggestions were made, and the individual was referred to his personal physician, hospital clinic, or to an appropriate agency best suited for handling the particular problem.

The time elapsing between the initial and the return visit depended on the individual situation. At most it was a year. At this second examination, recommendations were reiterated, or new advice was offered if necessary. All persons were notified by mail several weeks before the date of the reexamination; notification was frequently repeated by a telephone call the day before the appointment date.

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Area Served by the Clinic

Most of the patients included in this study lived in the section of Philadelphia between Chestnut and Mifflin Streets on the north and south and between the Delaware River and Broad Street on the east and west. This area in southeast Philadelphia has a total population of about 110,000, and the age, sex, and race composition is similar to that of the city as a whole. Roughly four-fifths of the population in both the clinic area and the city are white; the clinic area has, however, a higher proportion of foreign-born individuals, among whom Italians predominate. Approximately two-thirds of the white residents and practically all the nonwhite residents are financially eligible for the service of the clinic. Eligibility for clinic services is restricted to persons whose annual income is $3,500, or less.

This part of the city is generally recognized as one of the worst problem areas in Philadelphia. It is characterized by poverty, lack of education, inadequate housing and sanitation, as well as by high morbidity and mortality rates (*2–4*).

The First Clinic Visit

This report is based on a study of the first 1,500 consecutive patients who made their initial visits to the clinic between September 1948 and February 1953. These patients included 207 white men, 1,050 white women, 29 nonwhite men, and 214 nonwhite women, representing respectively 0.8, 4.1, 0.4, and 2.7 percent of the financially eligible population in each group.

Women predominated in every age group, with highest representation among white women 20 to 49 years old and nonwhite women 12 to 19. In general, individuals 50 years and older were poorly represented in the clinic census.

The individual's motivation for clinic attendance was either asked specifically of each patient or deduced from his history. Despite the admitted unreliability of this method, patients were considered subjectively "ill" if they knew of the existence of a specific illness or sought aid because of definite complaints. They were considered subjectively "well" if no specific complaint was volunteered.

If the individuals' statements can be trusted, almost half believed themselves "well" and actually came for health maintenance. The percentage who considered themselves "well" was slightly higher for white men than for white women and considerably higher for the younger than for the older persons in both racial groups.

The higher proportion of younger individuals in the clinic census who thought they were in good health may be attributed either to health consciousness indoctrinated recently in school or to the fact that young persons are really more healthy. Despite the poor representation of nonwhite persons, nonwhite women, 12 to 19 years of age, had a relatively high representation in the clinic census. A large proportion of this group came to the clinic presumably in good health.

It is not particularly surprising that 97 percent of those who considered themselves ill on the first visit really required medical attention. However, it is highly significant that three-fourths of the presumably well white men and practically all the presumably well women, particularly those 20 years of age and over, were found also to need medical care.

In all, 93 percent of the allegedly well really required treatment. Of all 1,500 patients, only 75, or 5 percent, were found to be free of medical, dental, or mental conditions. But 127 individuals, or 8 percent, could be considered in this category if caries of the teeth and pregnancy were not included as conditions warranting treatment. As was expected, the percentage of persons requiring medical attention was lower for the young than for the old, lower for men than for women, and lower for white than for nonwhite persons.

While the clinic was able to inform 23 persons that they were laboring under a misapprehension in believing themselves to be ill, 655 who thought they were well actually required medical guidance. Hence, there is no question as to whether the health maintenance clinic is fulfilling its purpose in the early detection of disease.

Number of Diseases Per Patient

Commonly a patient requiring medical help suffered from more than a single disorder.

Some had as many as 7. The modal and median number was 2. This was true whether or not dental caries and pregnancy were included. There were only 52 individuals for whom the sole finding was caries or pregnancy, or both. In most cases, caries or pregnancy or both conditions were found in conjunction with other complaints. Including caries and pregnancy, the 1,500 patients reported here accounted for 3,288 medical conditions. If dental caries and pregnancy are excluded from the computation, the number is reduced to 2,906.

Table 1 shows no striking differences either between races or sexes in the incidence of multiple illnesses. There was, however, a disparity between the sexes with respect to the presence or absence of disease: A higher proportion of the men were found healthy. As was anticipated, the incidence of multiple disease increased with the age of the patient. Boys and girls in the 12- to 19-year-old age group tended to have no illness or only one. Adults in the 20- to 49-age group tended to have 1 or 2 disorders and in the 50 and over category 2, 3, or more diseases.

Table 1. Number of illnesses [1] per patient by age, sex, and race in 1,500 patients

Age group and number of illnesses	Percentage of total patients in each age group			
	White		Nonwhite	
	Men	Women	Men	Women
12 to 19 years				
0	41	20	(2)	24
1	37	52	(2)	37
2	22	20	(2)	26
3	0	6	(2)	9
4 to 7	0	2	(2)	4
Total	100	100	------	100
20 to 49 years				
0	16	5	(2)	6
1	32	30	(2)	34
2	34	35	(2)	26
3	14	20	(2)	25
4 to 7	4	10	(2)	9
Total	100	100	------	100
50 years and over				
0	12	3	(2)	(2)
1	9	16	(2)	(2)
2	35	33	(2)	(2)
3	26	33	(2)	(2)
4 to 7	18	15	(2)	(2)
Total	100	100	------	-------
All ages				
0	20	5	28	10
1	30	30	24	33
2	32	34	24	26
3	13	21	21	21
4 to 7	5	10	3	10
Total	100	100	100	100

[1] Exclusive of dental caries and pregnancy.
[2] Percentages not computed when there were fewer than 20 patients.

Medical conditions found in the 1,500 individuals are tabulated in table 2. Obviously not all conditions could be itemized separately. Frequency of incidence constituted the main criterion for the compilation of this table, which follows a topographic classification (*5*).

A wide variety of medical conditions was observed, a substantial number of which were discovered in patients who were unaware of their medical problems.

For example, all cases of cervical erosion, cervical polyps, ovarian cysts (4 patients), cancer (3 patients), hypochromic anemia, intestinal parasites, gastric ulcer, and cholecystitis were diagnosed as a direct result of the efforts of the clinic. In addition, between three-tenths and nine-tenths of all uterine tumors, chronic cystic mastitis, dental conditions, malnutrition, diabetes mellitus, syphilis, hypertension, valvular heart disease, and goiter were presumably unknown to the patient before his first clinic visit.

Although such subdivision into conditions known and unknown to the patient is admittedly subject to error, there is little doubt that without the clinic examination a substantial number of illnesses would have been discovered only at a more advanced stage.

Referrals After First Visit

Although 1,500 persons accounted for 3,288 medical conditions, the number of individual referrals, 2,842, was smaller, since the hospital or family physician, could in many instances take care of more than one complaint (see table 3). The number of referrals ranged from none in the 75 healthy clients to as many as 5 for the patients needing treatment.

For the healthy person a variety of advice

Table 2. Incidence of medical conditions, in 1,500 patients

Conditions, by topographic classification	Number
Body as a whole	788
Psyche (primarily anxiety states but including 6 psychoses)	338
Body (primarily obesity and malnutrition but including 31 syphilis)	450
Integumentary system	61
Musculoskeletal system	70
Respiratory system	118
Asthma and hay fever	97
Tuberculosis of lungs	17
Bronchiectasis	4
Cardiovascular system	294
Valvular heart disease	136
Hypertension	89
Varicose veins	45
Miscellaneous	24
Hemic and lymphatic systems (all were hypochromic anemias)	304
Digestive system	512
Diseases of teeth and gums, mostly caries	337
Hemorrhoids	70
Hernia	31
Intestinal parasites	27
Duodenal ulcer	20
Cholecystitis	14
Enlarged tonsils	10
Gastric ulcer	3
Urogenital system	899
Urinary, including 162 cystoceles	207
Female genital, including 417 cervical erosions and 122 rectoceles	666
Male genital	26
Endocrine system	121
Menopausal syndrome	45
Goiter	41
Diabetes mellitus	25
Miscellaneous	10
Organs of special sense (eye and ear)[1]	76
Total[2]	3, 243

[1] Includes only those individuals requiring eye refraction who had never worn eyeglasses before. [2] In addition, there were 45 pregnancies for a grand total of 3,288 medical conditions.

was given. He was admonished, for example, to restrict or omit smoking or alcoholic beverages. Suggestions were offered, or actual arrangements were made with various agencies for a more appropriate job. Interviews with schools or special vocational training classes were arranged, and appointments were made with officials of the Philadelphia Department of Public Assistance for conferences on increased financial aid.

The mode was 2 referrals per patient. The most frequent referrals were those made for services available in hospitals and for consultation with the nutritionist and gynecologist at the health center.

Return Visits

For a health maintenance clinic to be of greatest benefit, it is essential that return visits be made periodically. Therefore, it is of great interest to examine the record of the appointments which were kept or broken during the study period. It is equally important to compare the return attendance of those, the apparently healthy, who were told they did not need treatment with those, found to be ill, who were actually referred to some agency for therapy.

The 75 healthy individuals were given a total of 160 appointments for return visits. Thirty-three of these appointments, 21 percent, were kept, and 23 persons returned at least once.

The 1,425 ill patients received 3,857 appointments and actually kept 1,255, or 32 percent.

These return visits were tabulated through 1953.

It would appear that although neither group was particularly conscientious about keeping appointments for reexamination, the ill patients were somewhat more regular than the healthy. Records often showed that clients

Table 3. Disposition of 1,500 cases

Referred to—	Number	Percent
Health center	2, 114	74
Nutritionist	830	29
Gynecologist	699	24
Dentist	268	9
Ophthalmologist	[1] 242	9
For health maintenance advice only	75	3
Hospitals	[2] 676	24
Family physicians	30	1
Social agencies	22	1
Total	2, 842	100

[1] Includes 30 individuals who had never worn eyeglasses before. [2] Primarily clinic referrals but includes 24 referred to psychiatrist.

would miss one appointment but would keep the next appointment. Therefore, an individual who kept an appointment within 2 years of this tabulation (1952 and 1953) was considered as still being served by the clinic. By the same reasoning, anyone failing to keep an appointment for 2 years was presumed to be separated from the clinic.

Obviously, the health maintenance clinic was able to do little for those who never returned for periodic examinations. A total of 37 percent of the healthy and 33 percent of the ill fell into this category. These figures exclude individuals who made their initial visit within 2 years of the termination of this study.

It is encouraging that more than half of the 1,500 individuals are still currently associated with the clinic. The record is somewhat better for the healthy than for the ill—57 percent for the former and 51 percent for the latter.

Of the 23 healthy individuals who were reexamined, only 6, or 26 percent, were found to have remained healthy on every return visit. It is impossible to say from present data whether this is a high or a low percentage. The figure is higher than the 5 percent who were found healthy on the first visit, but the comparison is not a fair one.

Evaluation of Results

Despite the convenient location of the Fife-Hamill Memorial Health Center in a problem area, only a small percentage of the financially eligible population availed itself of the services of the health maintenance clinic. A number of probable reasons for the low attendance can be advanced.

Known, or suspected, presence of illness is a powerful stimulus for an individual to seek medical attention. He accepts, usually without question, the therapeutic measures offered by a hospital outpatient department or by his private physician. On the other hand, a health maintenance clinic offers only a combination of health education, assurance, and personal interest on the part of the staff. Thus, such a program does not sell itself as readily as that of a conventional clinic.

The dental profession has been rather successful with its slogan "See Your Dentist Twice a Year." Well-baby clinics are now firmly established. However, a similar program with respect to a "well-adult" clinic has not yet won wide acceptance among the general population or the medical profession. Therefore, before it can hope to succeed, the program offered by an adult health maintenance clinic must be sold and resold to the public over a number of years. One way is to have the public health nurse visit frequently the homes of actual or potential clients in order to explain the importance of periodic physical check-ups. When such contact is reduced or discontinued, the attendance of a health maintenance clinic suffers.

A professionally organized and properly executed health education program is essential for the operation of a health center. Such a program in full operation would enlist more clientele and assure a larger percentage of return visits. Lack of funds alone has prevented the Fife-Hamill Memorial Health Center, in general, and its health maintenance clinic, in particular, from enjoying such a program.

Periodic examinations are essential for a program of health maintenance. The overall number of return visits at the clinic was discouragingly low. Only 1 out of 5 appointments was kept by those healthy on the first visit and 1 out of 3 for those classed as ill on the first visit. Encouraging is the fact that half of all patients returned at least once. An additional 16 percent may yet return since their initial visit was made within the last 2 years.

Such a clinic may attract patients initially through publicity and maintain attendance to some extent through the efforts of the public health nurse. In the long run, however, clinic growth depends on word-of-mouth referrals by satisfied clients. The number of new patients should increase each year. Our program fell short in this respect. During the period covered, the number of new patients each year remained quite constant with an average of approximately 340.

The low attendance of men is difficult to explain. Only 8 of each 1,000 eligible white men came to the clinic, but the rate for white women was 5 times as high. Among nonwhite persons, where preventive medicine is most needed, men were even more poorly represented. Perhaps of importance is the inconvenience of attending the clinic during working hours, despite the fact

that many employers allow employees to attend clinics without loss of pay.

It is quite probable that 26 percent (6 out of 23) is a biased estimate of the proportion of the clinic census who remained healthy on every return visit. An individual who continues to feel well would be no doubt less likely to return than one who becomes aware of symptoms. No control group is currently available for comparison, and we are unaware of available figures for similar programs. In order to draw a proper conclusion, it would be necessary to trace the history of a similar group of healthy people to whom no health maintenance advice was given. In any event, the period covered by this study is quite short.

Early detection of disease, while ordinarily thought of as a correction rather than prevention, is preventive medicine in the sense that more serious developments are forestalled, or their effects are minimized. Medical conditions were discovered in 93 percent of the individuals who thought of themselves as well before examination showed they were not. The clinic seems, therefore, to have fulfilled its secondary role quite satisfactorily since without examination most conditions probably would not have been discovered until a more advanced stage.

Patients requiring treatment were referred to various agencies (table 3) since no therapy was given at the health maintenance clinic. Because financial eligibility for clinic attendance precluded accepting patients whose annual income exceeded $3,500, it is not surprising that only 30 (1 percent) were referred to private physicians. Utilization of readily available facilities in nearby hospitals has become habitual with many of these families. Individuals requiring nutrition services were referred to the health center nutritionist since practical dietary guidance programs are not usually available in hospitals. The exceptionally large number of gynecologic consultations can be explained by the predominance of women in the child-bearing age (68 percent of the clinic census) and by the routine inclusion of pelvic examinations.

Occasionally, criticism has been made of a health maintenance clinic in that a false sense of security may be given to those not found to be ill. Periodic health examinations are essential if disease is to be discovered in the presymptomatic stage. A false sense of security on the part of the patient is avoidable by including in the recommendations an explanation of the limitations of predictory diagnosis.

Summary and Conclusions

A health maintenance clinic for adults was established at the Fife-Hamill Memorial Health Center, Philadelphia, by the department of preventive medicine of the Jefferson Medical College of Philadelphia. The primary and secondary purposes of the clinic were the maintenance of health and the early detection of disease by means of periodic examinations of presumably healthy adults in the lower income population of the area served. Considered a health problem area, the geographic site served by the clinic is characterized by low levels of education and income, by substandard housing, and by high morbidity and mortality rates.

This study represents an analysis of the first 1,500 consecutive patients who consulted the clinic initially between September 1948 and February 1953. Return visits were tabulated through 1953. These patients represent only a small proportion of the financially eligible population of the area (annual income below $3,500). White women 20 to 49 years of age predominated in the clinic census.

On the first visit to the clinic, although half of the patients thought of themselves as being well, almost every patient required treatment of some kind.

These 1,500 persons accounted for more than 3,000 conditions with mode and median of 2 per person. Multiplicity of conditions increased with age.

Only 75 persons (5 percent) appeared in good health and required no specific medical treatment.

Roughly half of all patients actually returned at least once for reexamination. An additional 16 percent visited the clinic initially within the past 2 years.

Of 23 healthy patients who were examined 1 or more times, only 6 were found to have remained healthy.

Because of insufficient data and lack of a control group, the role played by this clinic in

the prevention of disease remains equivocal. The success in early detection of disease appears established.

There is need for more concerted effort toward education in health maintenance through cooperation with private practitioners, school and public health agencies, hospitals and clinics, churches, social agencies, employers and other persons interested in public health.

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(*3*) Philadelphia Tuberculosis and Health Association: Tuberculosis by Philadelphia census tracts. Philadelphia, The Association, 1953.

(*4*) Philadelphia Department of Public Health: Annual report, 1950. Table D–20. Philadelphia, The Department, 1951, p. 20.

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Legal Note on Procedural Due Process

In *L. A. Darling* v. *Water Resources Commission*, 67 NW 2d 890, decided January 12, 1955, by the Supreme Court of Michigan, an order of the State commission was held invalid on the ground that the alleged polluters had not been afforded procedural due process.

The record of the "hearing" before the commission covering pollution of underground water disclosed that witnesses were not sworn, that no exhibits were identified, and that the commission relied on materials and data which were not introduced at the hearing and made no findings of fact.

The court said:

"The legislature's right under the police power to regulate the contamination of waters of this State is not in question, but the exercise of such power does not obviate the necessity to recognize the due process clauses of our State and Federal Constitutions. When the legislature created a 7-man commission, composed of 4 State officials and 3 citizens, it undoubtedly expected it to conduct a proper and legal hearing before issuing an order, such as was issued in this case, that appellant change its method of doing business at an expenditure of a large sum of money.

"The legislature provided for an appeal from the decision and order of the commission to the circuit court and that said appeal would be determined in chancery as a trial *de novo*. This provision did not obviate the necessity of a proper legal hearing before the commission. It did not contemplate that the failure of the commission to hold a proper hearing should be corrected by appeal. The legislature gave to the court the right and duty to pass judgment upon the decision and order of the commission based on the record of such proceedings before said commission."